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ABSTRACT

This report summarizes three related studies of 3- to 5-year-old children's temperament and its relationship to their social competence, ability to solve interpersonal problems, locus of control, parent behavior and teacher/child interactions. Fifty-eight children, predominantly middle class participants in a laboratory preschool, and their parents were subjects for portions of this study. A trained observer used a "focal person" method to record interactions between the head teacher and individual children in two groups of 19 children. The 24 four-year-olds in this study were also rated by parents and teachers on the Thomas, Chess and Korn Temperament Scale, and were assessed according to the Stanford Preschool Internal-External Scale and the Preschool Interpersonal Problem Solving Scale. Another group of 20 children were subjects of a correlational study of parents' self-ratings on the Iowa Parent Behavior Inventory and ratings of their children on the temperament questionnaire and the Iowa Social Competency Scale. Results suggested differences between mothers and fathers in the ways they see and interpret their children and indicated that individual differences in children's behavorial style were related to different patterns of teacher/child interaction. There were also correlations between temperament variables and the children's sex, age, and birth order. Results also indicated either that the temperament questionnaire is unreliable across settings or that temperament is setting-specific. (CB)

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Behavior Individuality and the Development of Social Competence Among Pre School Children

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Behavior Individuality and the Development of Social Competence among Preschool Children

by Jo Ann N. Nelson and Norma Simmerer

PURPOSE

The purpose of this paper is to summarize three related studies on children's temperament and its relationship to children's social competence, parent behavior, teacher-child interactions in a preschool setting, and other measures of social thinking among preschool children. Specific objectives were: 1) to study the relationship between individual differences in children's behavior style, or temperament, as rated by parents and teachers, and selected measures of social behavior: ratings of social competence, ratings of parent behavior, observed social interactions, and children's social problem solving; 2) to compare mothers', fathers', and teachers' ratings of temperaments; 3) to identify perceived characteristics of children that have the potential to influence the behavior of caregivers; 4) to assess differences in social cognition among children differing in temperament.

METHODS

Subjects: A total of 58 three- to five-year-old children, half boys and half girls, predominantly middle class, all participants in a laboratory preschool, and their parents were subjects for portions of this study. Thirty-eight children, divided into two school groups and the head teacher in each group, served as subjects for the portion of the study involving naturalistic observation. One of the groups was all-day child care; the other was half-day nursery school. The four-year-olds within this sample (n=24) further served as subjects for the investigation of social problem solving, locus of control, and temperament. The remaining children (n=20) were enrolled in a summer session of preschool, and

they were subjects for correlational study of parents' ratings of temperament, social competence, and parent behavior.

PROCEDURES

1) Written measures

a. Measures of six dimensions of children's temperament were obtained through use of the Thomas, Chess, and Korn Temperament Questionnaire (Thomas, Chess, and Korn, 1977). Both parents' and teachers' forms (PTQ and TTQ) were used for assessment of mothers', fathers', and teachers' ratings of children's activity level, mood quality, adaptability, persistence, intensity, and tendency to approach vs. withdraw. Questionnaire data were weighted according to the Thomas, Chess, and Korn (1977) instructions, to produce a score for each of the six dimensions of temperament.

b. Social competence was assessed with the Iowa Social Competency Scale (ISCS) which was developed at Iowa State University as part of the USDA Experiment Station Project NC- 124 (Pease, Clark, and Crase, 1979). The ISCS yielded measures of social activator, hypersensitivity, reassurance, cooperative, uncooperative or inappropriate, and attentive behavior.

c. Parent behavior was assessed with the Iowa Parent Behavior Inventory (IPBI) also developed at Iowa State University by Crase, Clark, and Pease (1979). The IPBI was a parent self-rating measure of the following dimensions of behavior: Parent Involvement, Limit Setting, Responsiveness, Reasoning - Guidance, and Intimacy for both Mothers and Fathers. Free expression was a factor on the mother form of the IPBI only.

2) Obervations Observations of naturally-occurring teacher-child interactions within the nursery school setting were made by a trained observer using a "focal person" method (Irwin and Bushnell, 1980) that recorded all interactions of the head teacher and individual children in each of the two groups. The occurrence

and frequency of the following kinds of interactions were recorded: who initiated the interaction, child or teacher; physical contact involved in the interaction; positive directions and directions to stop; redirection, help, information, praise, comfort, and situations involving children's aggression and danger or distress. There were 19 children in each group, with an overall total of 19 girls and 19 boys. Mean age was 50 months, with a range of 40-61 months. Reliability of observation categories was computed with a second observer using the same observational system. Eighty-two percent agreement was obtained between the observer and a co-observer. Samples of behavior were obtained over a three week period in April of the school year.

3) Interview Measures Interpersonal problem solving was assessed using Shure and Spivack's (1974) Preschool Interpersonal Problem Solving Scale (PIPS); this serves as a measure of the child's ability to generate alternative solutions of hypothetical problems such as how to obtain a desired toy from another child and how to explain a broken object to an angry parent. In addition, Mischel's locus of control measure, the Stanford Preschool Internal-External Scale (SPIES), (Mischel, Zeiss, and Zeiss, 1974), was presented to the sample of 24 four-year-olds. All measures were used according to authors' directions, and correlations with temperament scores were obtained.

RESULTS

1) Descriptive Statistics

a. Agreement among raters

Pearson correlations revealed that mothers' and fathers' ratings of temperament variables were positive and significant for adaptability ($p < .005$), mood ($p < .05$), and activity level ($p < .05$). Correlations between mothers' and fathers' ratings were positive and marginally significant for intensity ($p < .10$) and positive but nonsignificant for persistence.

Pearson correlations between mothers' and teachers' ratings of temperament were positive, but nonsignificant for mood, activity level, and persistence. Mothers' and teachers' ratings were negative and nonsignificantly correlated for adaptability and intensity. Pearson correlations between fathers' and teachers' ratings of temperament were positive and nonsignificant for adaptability, mood, and persistence. A negative and marginally significant correlation was present between fathers' and teachers' ratings of children's intensity ($p < .10$), and a negative, nonsignificant correlation was present between fathers' and teachers' ratings of activity level.

b. Other variables: age, birth order, siblings, mothers' employment, and group membership in relation to temperament

Older children (within the 3 to 5 year range) were more likely to be rated as persistent by fathers ($p < .05$) and less likely to be rated high in activity level by teachers ($p < .05$). Teachers rated older children more adaptable ($p < .05$). Later-born children were rated by teachers as less persistent ($p < .05$). Number of siblings was associated with mothers' ratings of positive mood. Mothers who were employed rated children as significantly less adaptable ($p < .05$), according to t-tests, whereas teachers rated children of mothers who were employed as more adaptable ($p < .05$), more approaching, and more persistent ($p < .05$). It should be pointed out that in the day-care group, significantly more mothers were employed ($p < .05$). The teachers in the day-care and half-day groups differed significantly in their mean ratings of adaptability and mood of the children in each program, with the day-care teacher rating the children significantly ($p < .05$) higher.

2) Temperament and Social Competence

When temperament measures were correlated with parents' ratings of Social Competence, the following relationships emerged:

Among fathers: Activity level was significantly related to all of the social behavior variables except Social Activator, Hypersensitivity, and Attentive behavior, ($p < .05$), Inappropriate behavior ($p < .01$), and Reassurance ($p < .10$) were all associated with high activity level. Mood was positively and marginally associated with Attentive behavior and negatively related to Inappropriate behavior. Low intensity and high persistence were correlated with Social Activator and Attentive behavior. Inappropriate behavior was associated with low adaptability ($p < .05$).

Among mothers: High activity level was correlated ($p < .05$) with Reassurance. High persistence ($p < .10$) and adaptability (.05) were correlated with Cooperative behavior. Uncooperative behavior was associated with high intensity ($p < .01$). Adaptability was negatively associated with Hypersensitivity. No significant correlations with mood were obtained among mothers. It should be noted that social competence variables were not identical for mothers and fathers.

3) Temperament and Parent Behavior

Among fathers: Activity level was negatively, though nonsignificantly, correlated with all parent behavior variables, and strong positive correlations were obtained between adaptability and all father behavior variables. Consistently negative correlations were obtained between intensity and fathers' behaviors ($p < .05$). Persistence was marginally associated with fathers' Parent Involvement and Responsiveness.

Among mothers: Fewer significant correlations were obtained between Temperament and maternal behavior variables, and correlation patterns varied. For example, activity level was positively, though marginally, correlated with Parent Involvement. Mothers' behavior variables and adaptability were nonsignificant, except for a marginal relationship with Limit Setting.

4) Temperament and Interaction with Preschool Teachers

A second phase of the study of temperament was the correlation of preschool teachers' ratings of children's temperament with frequency of interactions of individual children and head teachers within the natural context of the preschool setting (n=38 children, half in day-care, half in nursery school).

Descriptive statistics

a. Observed behavior:

Sex differences: Boys received more directives from the teacher in both groups.

Age differences: Within the limited age range, younger children received more comfort, and younger boys were more often involved in aggression, which was not frequent.

Group differences: The two classrooms varied in the frequency of child-initiated interactions, redirection, and praise.

b. Differences in temperament ratings:

Sex differences: Boys were rated higher in activity level ($p < .01$), and girls higher in mood ($p < .02$) by teachers in both groups.

Age differences: Within the limited age range, older children were rated more adaptable ($p < .05$).

Group differences: Children in the all-day group were rated higher in mood and adaptability by the teacher (see first section of Results, above).

c. Correlations of temperament and observed behavior:

The following significant correlations were obtained:

Activity level was associated with Redirection of behavior ($p < .01$), Distress ($p < .02$), total number of interactions, ($p < .05$), and negatively ($p < .05$) with Help and Information given.

Mood quality was negatively correlated with Redirection, Aggression, and Danger ($p < .05$).

4) c. (con't.)

Persistence was correlated with frequency of child-initiated interactions ($p < .02$) and negatively with Aggression ($p < .05$).

Adaptability was negatively correlated with number of interactions ($p < .05$) and Redirection of Behavior (negative, $p < .02$).

Tendency to Approach was negatively correlated ($p < .05$) with observations of Aggression.

5) Temperament, Interpersonal Problem Solving, and Locus of Control

A third phase in the study of temperament was the exploration of children's alternative problem solving, as measured in the PIPS, locus of control using the SPIES, and dimensions of temperament among 4-year-old children (n=24). Children who thought of more alternative solutions in general and children who thought of more solutions in response to the mother problem stories were rated as significantly less intense by mothers ($p < .05$). Similarly, fathers who rated their children as less intense also generated more solutions in general ($p < .10$). Children who generated more solutions were also seen by parents and teachers to be lower in activity level, and they were rated high in persistency by teachers. Overall results indicated that PIPS scores were more highly related to temperament dimensions that reflected an aptitude to sit still and persist in a structured testing situation than to characteristics that reflect ease or difficulty in interaction with the environment. Children high in problem solution also tended to be more internal in locus of control for positive outcomes.

DISCUSSION

Although parents showed consistency in rating children's temperament in four of five dimensions, differing patterns of correlations with Social Competence and Parent Behavior variables suggest that mothers and fathers may be perceiving qualities of their children's and their own behavior in varying ways, as if their internal "measuring sticks" or response sets were different. These differences

very likely reflect differing expectations for children and different valuations regarding children's behavior and their own. Correlations among fathers tended to confirm previous research with temperament.

Differences between parents' ratings and teachers' may suggest poor reliability of the Chess and Thomas measurement of temperament across settings, or may indicate that what is called temperament is more setting-specific than is indicated by the authors.

Since much of the previously reported research on temperament has referred to clinical cases, the variability within this sample of "normal" children and parents and the significant correlations that were obtained between temperament, social competence, and parent behavior suggest that differences in behavior style among children are associated with varying patterns in social interactions with peers and parents.

The six dimensions of temperament were each associated with specific kinds of interactions with the teacher. Sex differences, as well as differences associated with a classroom or teacher, were also observed. The correlations suggest that individual differences in behavior style, as perceived by teachers, are related to differences in the preschool environment as experienced by the individual child.

SUMMARY

Reviewing the three phases of the study, as discussed above, it appears that the PTQ provides a partly reliable method for investigating differences in children's behavior style; mothers and fathers differed significantly in rating children's persistence, and were similar in rating four of the dimensions of temperament. Reliability across settings, as indicated in comparison to teachers' ratings, was open to question. Consistent sex differences were obtained among parent and teacher raters.

Social Competence

Correlational results suggest that dimensions of temperament as measured in the PTQ are, to some extent, correlated with children's social competence, as measured in the ISCS. Among fathers, activity level appeared to be a significant variable, and intensity and persistence also were associated with social behavior variables. Among mothers, all of the dimensions of temperament except mood were significantly correlated with behavior; however, fewer significant correlations were found, as contrasted with correlations in fathers' ratings.

Parent Behavior

Among fathers, activity level and intensity were negatively related to father behaviors, and adaptability was positively related to fathers' behavior measures. Among mothers, few significant correlations were found. Correlations among fathers' ratings are consistent with previously reported research on temperament.

Teachers' Ratings and Teacher-Child Interaction

Activity level was related to the rate of teacher-initiated interaction, particularly those concerned more with behavior directives than instruction or information. Children who were seen as negative in mood (sad) were likely to be found in aggressive or dangerous behavior. Children rated as intense expressed feelings, as in distress. Children who were seen as persistent initiated activity with the teacher. Children who were rated as adaptable had a relatively low rate of interaction with the teacher. It is not known if the highly adaptable children had a higher rate of peer interaction.

Temperament and Interpersonal Problem Solving

The pattern of correlations between problem solving scores and dimensions of temperament suggests that the content of solutions is not related to temperament variables, but that the test setting and the behavior demands within it are significantly related to dimensions of persistence (high) and activity

level (low), as rated by teachers.

CONCLUSIONS

Varying patterns of correlations among mothers and fathers in their perceptions of children's behavior and their own suggest that mothers and fathers see and interpret their children differently. Strong correlations between teachers' ratings of children's behavior style and independently-observed teacher-child interactions indicate that each dimension of temperament is associated with specific kinds of interaction, demonstrating that individual differences in children's behavior style are related to differing patterns of interaction in the preschool environment.

Correlations with social problem solving interview scores suggest that certain elements of behavior style, high persistence and low activity level, may predispose a child to achievement in certain kinds of settings.

Although parents and teachers consistently rated boys and girls as different in activity level and mood, it appeared that individual differences, rather than sex differences, were associated with differences in social competence, parent behavior, teacher-child interaction, and interpersonal problem solving.

Results suggest the need (1) to examine further the influence of sex of parent and sex of child in parents' interpretations of behavior; (2) to examine specific dimensions of temperament across settings; and (3) across time. It is likely that the social meaning of differences in temperament changes with age of child and with social context; therefore, the behavior correlates are likely to change accordingly. Further study of individual differences in teachers' reactions to individual children is recommended.

The results suggest that in varying ways the child participates in the caregiving environment.

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